Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.1
Grade/Course Level Expectation	Use mathematical language, symbols, and definitions while developing mathematical reasoning.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,1: Compare & Order Numbers

Skill Tree(s)

78MC: Whole Numbers and Integer Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.2
Grade/Course Level Expectation	Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,24: Estimation I
7,C,25: Problem Solving Strategies
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.3
Grade/Course Level Expectation	Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,25: Problem Solving Strategies
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.4
Grade/Course Level Expectation	Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,25: Problem Solving Strategies
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.5
Grade/Course Level Expectation	Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,25: Problem Solving Strategies
7,C,31: Equations & Inequalities
7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.6
Grade/Course Level Expectation	Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.7
Grade/Course Level Expectation	Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	GLE 0706.1.8
Grade/Course Level Expectation	Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.1
Grade/Course Level Expectation	
Checks for Understanding	Recognize common abbreviations (such as gcd/gcf and lcm).
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.2
Grade/Course Level Expectation	
Checks for Understanding	Recognize round-off error and the inaccuracies it introduces.
State Performance Indicators	
Detail	

General Skill(s)

7,C,2: Rounding

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.3
Grade/Course Level Expectation	
Checks for Understanding	Check answers both by estimation and by appropriate independent calculations, using calculators or computers judiciously.
State Performance Indicators	
Detail	

General Skill(s)

7,C,24: Estimation I

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.4
Grade/Course Level Expectation	
Checks for Understanding	Recognize quantities that are inversely proportional (such as the relationship between the lengths of the base and the side of a rectangle with fixed area).
State Performance Indicators	
Detail	

General Skill(s)

7,C,124: Proportions*

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.5
Grade/Course Level Expectation	
Checks for Understanding	Understand that a linear function in which f(0) = 0 is called a directly proportional relationship.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.6
Grade/Course Level Expectation	
Checks for Understanding	Develop meaning of intercept and rate of change in contextual problems.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.7
Grade/Course Level Expectation	
Checks for Understanding	Explain and demonstrate how scale in maps and drawings shows relative size and distance.
State Performance Indicators	
Detail	

General Skill(s)

7,C,118: Scale*

Skill Tree(s)

75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.8
Grade/Course Level Expectation	
Checks for Understanding	Use age-appropriate books, stories, and videos to convey ideas of mathematics.
State Performance Indicators	
Detail	

General Skill(s)

7,C,25: Problem Solving Strategies

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.9
Grade/Course Level Expectation	
Checks for Understanding	Model algebraic equations with manipulatives, technology, and pencil and paper.
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.10
Grade/Course Level Expectation	
Checks for Understanding	Translate from calculator notation to scientific/ standard notation.
State Performance Indicators	
Detail	

General Skill(s)

7,C,5: Scientific Notation

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.11
Grade/Course Level Expectation	
Checks for Understanding	Use dynamic geometry software to explore scale factor and similarity.
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	0706.1.12
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Use proportional reasoning to solve mixture/ concentration problems.
Detail	

General Skill(s)

7,C,53: Logic Problems

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	SPI 0706.1.1
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Generalize a variety of patterns to a symbolic rule from tables, graphs, or words.
Detail	

General Skill(s)

7,C,7: Patterning
7,C,114: Patterns*
7,C,42: Interpreting Data

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
187MC: Algebraic Foundations
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	SPI 0706.1.2
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Recognize whether information given in a table, graph, or formula suggests a directly proportional, linear, inversely proportional, or other nonlinear relationship.
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*
7,C,42: Interpreting Data

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
182MC_A: Data Management Concepts
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Mathematical Processes
Code	SPI 0706.1.3
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Use scales to read maps.
Detail	

General Skill(s)

7,C,118: Scale*

Skill Tree(s)

75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.1
Grade/Course Level Expectation	Extend understandings of addition, subtraction, multiplication and division to integers.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,20: Addition: Word & Computation Problems
7,C,21: Subtraction: Word & Computation Problems
7,C,22: Multiplication: Word & Computation Problems
7,C,23: Division: Word & Computation Problems
7,C,41: Problem Solving
7,C,43: Adding Fractions
7,C,44: Adding Decimals
7,C,45: Subtracting Fractions
7,C,46: Subtracting Decimals
7,C,47: Multiplying Fractions
7,C,48: Multiplying Decimals
7,C,49: Dividing Fractions
7,C,50: Dividing Decimals

Skill Tree(s)

9SB: Fractions: Advanced
18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
78MC: Whole Numbers and Integer Concepts 7-8
92SB_A: Decimals: Advanced
92SB_B: Decimals: Beginning
150SB: Math Strategies 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.2
Grade/Course Level Expectation	Understand and work with the properties of and operations on the system of rational numbers.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,20: Addition: Word & Computation Problems
7,C,21: Subtraction: Word & Computation Problems
7,C,22: Multiplication: Word & Computation Problems
7,C,23: Division: Word & Computation Problems
7,C,41: Problem Solving
7,C,43: Adding Fractions
7,C,44: Adding Decimals
7,C,45: Subtracting Fractions
7,C,46: Subtracting Decimals
7,C,47: Multiplying Fractions
7,C,48: Multiplying Decimals
7,C,49: Dividing Fractions
7,C,50: Dividing Decimals

Skill Tree(s)

9SB: Fractions: Advanced
18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
78MC: Whole Numbers and Integer Concepts 7-8
92SB_A: Decimals: Advanced
92SB_B: Decimals: Beginning
150SB: Math Strategies 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.3
Grade/Course Level Expectation	Develop an understanding of and apply proportionality.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,124: Proportions*

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.4
Grade/Course Level Expectation	Use ratios, rates and percents to solve single- and multi-step problems in various contexts.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,9: Simple Equations
7,C,124: Proportions*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.5
Grade/Course Level Expectation	Understand and work with squares, cubes, square roots and cube roots.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,55: Square Roots

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.6
Grade/Course Level Expectation	Introduce the concept of negative exponents.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,112: Number Lines*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
77MC: Percent Concepts
78MC: Whole Number and Integer Concepts 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8
187MC: Algebraic Foundations
188MC: Functional, Geometric, and Stat. Relationships
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	GLE 0706.2.7
Grade/Course Level Expectation	Understand and use scientific notation.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,4: Exponential Notation
7,C,5: Scientific Notation

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.1
Grade/Course Level Expectation	
Checks for Understanding	Understand that the set of rational numbers includes any number that can be written as a ratio of two integers in which the denominator is not zero.
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.2
Grade/Course Level Expectation	
Checks for Understanding	Develop and analyze algorithms and compute efficiently with integers and rational numbers.
State Performance Indicators	
Detail	

General Skill(s)

7,C,20: Addition: Word & Computation Problems
7,C,21: Subtraction: Word & Computation Problems
7,C,22: Multiplication: Word & Computation Problems
7,C,23: Division: Word & Computation Problems
7,C,41: Problem Solving
7,C,43: Adding Fractions
7,C,44: Adding Decimals
7,C,45: Subtracting Fractions
7,C,46: Subtracting Decimals
7,C,47: Multiplying Fractions
7,C,48: Multiplying Decimals
7,C,49: Dividing Fractions
7,C,50: Dividing Decimals

Skill Tree(s)

9SB: Fractions: Advanced
18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
78MC: Whole Numbers and Integer Concepts 7-8
92SB_A: Decimals: Advanced
92SB_B: Decimals: Beginning
150SB: Math Strategies 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.3
Grade/Course Level Expectation	
Checks for Understanding	Recognize that rational numbers satisfy the commutative and associative laws of addition and multiplication and the distributive law.
State Performance Indicators	
Detail	

General Skill(s)

7,C,125: Properties of Addition & Multiplication*

Skill Tree(s)

78MC: Whole Number and Integer Concepts 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8
187MC: Algebraic Foundations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.4
Grade/Course Level Expectation	
Checks for Understanding	Understand that a and –a are additive inverses and are located the same distance from zero on the number line; relate distance from zero to absolute value.
State Performance Indicators	
Detail	

General Skill(s)

7,C,112: Number Lines*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
77MC: Percent Concepts
78MC: Whole Number and Integer Concepts 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8
187MC: Algebraic Foundations
188MC: Functional, Geometric, and Stat. Relationships
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.5
Grade/Course Level Expectation	
Checks for Understanding	Understand that –(–a) = a for any number a.
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.6
Grade/Course Level Expectation	
Checks for Understanding	Use the number line to demonstrate addition and subtraction with integers.
State Performance Indicators	
Detail	

General Skill(s)

7,C,112: Number Lines*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
77MC: Percent Concepts
78MC: Whole Number and Integer Concepts 7-8
185MC: Fraction Concepts 7-8
186MC: Decimal Concepts 7-8
187MC: Algebraic Foundations
188MC: Functional, Geometric, and Stat. Relationships
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.7
Grade/Course Level Expectation	
Checks for Understanding	Write number sentences to solve contextual problems involving ratio and percent.
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,124: Proportions*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.8
Grade/Course Level Expectation	
Checks for Understanding	Apply ratios, rates, proportions and percents (such as discounts, interest, taxes, tips, distance/rate/time, and percent increase or decrease).
State Performance Indicators	
Detail	

General Skill(s)

7,C,124: Proportions*
7,C,51: Determining Discounts

Skill Tree(s)

12LG: Percents: Mixed Practice
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.9
Grade/Course Level Expectation	
Checks for Understanding	Efficiently compare and order rational numbers and roots of perfect squares/cubes; determine their approximate locations on a number line.
State Performance Indicators	
Detail	

General Skill(s)

7,C,55: Square Roots

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.10
Grade/Course Level Expectation	
Checks for Understanding	Recognize that when a whole number is not a perfect square, then its square root is not rational and cannot be written as the ratio of two integers.
State Performance Indicators	
Detail	

General Skill(s)

7,C,55: Square Roots

Skill Tree(s)

150SB: Math Strategies 7-8

Orchard Correlation to the Tennessee Curriculum Standards

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.11
Grade/Course Level Expectation	
Checks for Understanding	Estimate square/cube roots and use calculators to find approximations.
State Performance Indicators	
Detail	

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.12
Grade/Course Level Expectation	
Checks for Understanding	Recognize (square root)mn = (square root)m • (square root)n and (square root)(m)2 = m.
State Performance Indicators	
Detail	

General Skill(s)

7,C,55: Square Roots

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.13
Grade/Course Level Expectation	
Checks for Understanding	Use the meaning of negative exponents to represent small numbers; translate between scientific and standard notation.
State Performance Indicators	
Detail	

General Skill(s)

7,C,4: Exponential Notation
7,C,5: Scientific Notation

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.14
Grade/Course Level Expectation	
Checks for Understanding	Express numbers in scientific notation and recognize its importance in representing the magnitude of a number.
State Performance Indicators	
Detail	

General Skill(s)

7,C,5: Scientific Notation

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	0706.2.15
Grade/Course Level Expectation	
Checks for Understanding	Report results of calculations appropriately in a given context (i.e. using rules of rounding, degree of accuracy, and/or significant digits).
State Performance Indicators	
Detail	

General Skill(s)

7,C,24: Estimation I
7,C,33: Determining Reasonable Solutions
7,C,40: Estimation II

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.1
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Simplify numerical expressions involving rational numbers.
Detail	

General Skill(s)

7,C,4: Exponential Notation
7,C,104: Simple Algebraic Expressions*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8
187MC: Algebraic Foundations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.2
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Compare rational numbers using appropriate inequality symbols.
Detail	

General Skill(s)

7,C,1: Compare & Order Numbers

Skill Tree(s)

78MC: Whole Numbers and Integer Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.3
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Use rational numbers and roots of perfect squares/ cubes to solve contextual problems.
Detail	

General Skill(s)

7,C,36: Number Systems & Functions
7,C,55: Square Roots

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.4
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Determine the approximate location of square/cube roots on a number line.
Detail	

General Skill(s)

7,C,36: Number Systems & Functions
7,C,55: Square Roots

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.5
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Solve contextual problems that involve operations with integers.
Detail	

General Skill(s)

7,C,20: Addition: Word & Computation Problems
7,C,21: Subtraction: Word & Computation Problems
7,C,22: Multiplication: Word & Computation Problems
7,C,23: Division: Word & Computation Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
78MC: Whole Numbers and Integer Concepts 7-8
92SB_B: Decimals: Beginning
150SB: Math Strategies 7-8
186MC: Decimal Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.6
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Express the ratio between two quantities as a percent, and a percent as a ratio or fraction.
Detail	

General Skill(s)

7,C,3: Fractions, Decimals, & Percents: Conversions & Problem Solving
7,C,8: Ratio & Proportion
7,C,124: Proportions*

Skill Tree(s)

12LG: Percents: Mixed Practice
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Number & Operations
Code	SPI 0706.2.7
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Use ratios and proportions to solve problems.
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,9: Simple Equations
7,C,124: Proportions*

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8
150SB: Math Strategies 7-8
74MC: Patterning and Algebra Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.1
Grade/Course Level Expectation	Recognize and generate equivalent forms for simple algebraic expressions.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,11: Algebraic Expressions
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.2
Grade/Course Level Expectation	Understand and compare various representations of relations and functions.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*
7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
188MC: Functional, Geometric, and Stat. Relationships
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.3
Grade/Course Level Expectation	Understand the concept of function as a rule that assigns to a given input one and only one number (the output).
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.4
Grade/Course Level Expectation	Use function notation where f(x) represents the output that the function f assigns to the input x.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.5
Grade/Course Level Expectation	Understand and graph proportional relationships.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*
7,C,124: Proportions*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.6
Grade/Course Level Expectation	Conceptualize the meanings of slope using various interpretations, representations, and contexts.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,118: Scale*
7,C,124: Proportions*

Skill Tree(s)

75MC: Geometry Concepts 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.7
Grade/Course Level Expectation	Use mathematical models involving linear equations to analyze real-world phenomena.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	GLE 0706.3.8
Grade/Course Level Expectation	Use a variety of strategies to efficiently solve linear equations and inequalities.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,11: Algebraic Expressions
7,C,31: Equations & Inequalities
7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.1
Grade/Course Level Expectation	
Checks for Understanding	Perform basic operations on linear expressions (including grouping, order of operations, exponents, simplifying and expanding).
State Performance Indicators	
Detail	

General Skill(s)

7,C,4: Exponential Notation

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.2
Grade/Course Level Expectation	
Checks for Understanding	Represent and analyze mathematical situations using algebraic symbols.
State Performance Indicators	
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,11: Algebraic Expressions
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.3
Grade/Course Level Expectation	
Checks for Understanding	Identify a function from a written description, table, graph, rule, set of ordered pairs, and/or mapping.
State Performance Indicators	
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.4
Grade/Course Level Expectation	
Checks for Understanding	Make tables of inputs x and outputs f(x) for a variety of rules that include rational numbers (including negative numbers) as inputs.
State Performance Indicators	
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.5
Grade/Course Level Expectation	
Checks for Understanding	Plot points to represent tables of linear function values.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.6
Grade/Course Level Expectation	
Checks for Understanding	Understand that the graph of a linear function f is the set of points on a line representing the ordered pairs (x, f(x)).
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.7
Grade/Course Level Expectation	
Checks for Understanding	Distinguish proportional relationships (y/x = k, or y = kx) from other relationships, including inverse proportionality (xy = k, or y = k/x).
State Performance Indicators	
Detail	

General Skill(s)

7,C,124: Proportions*

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.8
Grade/Course Level Expectation	
Checks for Understanding	Understand slope as the ratio of vertical change to horizontal change.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.9
Grade/Course Level Expectation	
Checks for Understanding	Identify a function exhibiting a constant rate of change as a linear function and identify the slope as a unit rate.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.10
Grade/Course Level Expectation	
Checks for Understanding	Solve problems involving unit rates (e.g., miles per hour, words per minute).
State Performance Indicators	
Detail	

General Skill(s)

7,C,117: Rate*

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.11
Grade/Course Level Expectation	
Checks for Understanding	Relate the features of a linear equation to a table and/or graph of the equation.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.12
Grade/Course Level Expectation	
Checks for Understanding	Use linear equations to solve problems and interpret the meaning of slope, m, and the y-intercept, b, in f (x)= mx + b in terms of the context.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.13
Grade/Course Level Expectation	
Checks for Understanding	Given a graph that exhibits the intersection of a line and the y-axis, write a linear function in slope-intercept form: y = mx + b.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	0706.3.14
Grade/Course Level Expectation	
Checks for Understanding	Understand that when solving linear inequalities, multiplication or division by a negative reverses the inequality symbol.
State Performance Indicators	
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.1
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Evaluate algebraic expressions involving rational values for coefficients and/or variables.
Detail	

General Skill(s)

7,C,11: Algebraic Expressions

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.2
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Determine whether a relation (represented in various ways) is a function.
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.3
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Given a table of inputs x and outputs f(x), identify the function rule and continue the pattern.
Detail	

General Skill(s)

7,C,109: Function Tables*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
76MC: Graphing Concepts
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.4
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Interpret the slope of a line as a unit rate given the graph of a proportional relationship.
Detail	

General Skill(s)

7,C,105: Constant & Linear Relationships*

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
184MC: Measurement Concepts 7-8
187MC: Algebraic Foundations
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.5
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Represent proportional relationships with equations, tables and graphs.
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,118: Scale*
7,C,124: Proportions*

Skill Tree(s)

75MC: Geometry Concepts 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
189MC: Linear Relations

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.6
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Solve linear equations with rational coefficients symbolically or graphically.
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.7
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Translate between verbal and symbolic representations of real-world phenomena involving linear equations.
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.8
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Solve contextual problems involving two-step linear equations.
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Algebra
Code	SPI 0706.3.9
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Solve linear inequalities in one variable with rational coefficients symbolically or graphically.
Detail	

General Skill(s)

7,C,9: Simple Equations
7,C,31: Equations & Inequalities

Skill Tree(s)

74MC: Patterning and Algebra Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	GLE 0706.4.1
Grade/Course Level Expectation	Understand the application of proportionality with similar triangles.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,108: Polygons*
7,C,119: Properties of Quadrilaterals*
7,C,12: Geometry: 2D & 3D Figures

Skill Tree(s)

15SB: Perimeter, Area, and Volume
75MC: Geometry Concepts 7-8
150SB: Math Strategies 7-8
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	GLE 0706.4.2
Grade/Course Level Expectation	Apply proportionality to converting among different units of measurements to solve problems involving rates such as motion at a constant speed.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,14: Geometry & Figure Construction
7,C,16: Area & Volume
7,C,52: Measuring Angles

Skill Tree(s)

150SB: Math Strategies 7-8
15SB: Perimeter, Area, and Volume
66LG: Perimeter, Area, and Volume: Mixed Practice
184MC: Measurement Concepts 7-8
75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	GLE 0706.4.3
Grade/Course Level Expectation	Understand and use scale factor to describe the relationships between length, area, and volume.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,16: Area & Volume
7,C,118: Scale*

Skill Tree(s)

15SB: Perimeter, Area, and Volume
150SB: Math Strategies 7-8
66LG: Perimeter, Area, and Volume: Mixed Practice
184MC: Measurement Concepts 7-8
75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	GLE 0706.4.4
Grade/Course Level Expectation	Understand and use ratios, derived quantities, and indirect measurements.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion
7,C,16: Area & Volume

Skill Tree(s)

15SB: Perimeter, Area, and Volume
66LG: Perimeter, Area, and Volume: Mixed Practice
150SB: Math Strategies 7-8
184MC: Measurement Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	0706.4.1
Grade/Course Level Expectation	
Checks for Understanding	Solve problems involving indirect measurement such as finding the height of a building by comparing its shadow with the height and shadow of a known object.
State Performance Indicators	
Detail	

General Skill(s)

7,C,118: Scale*

Skill Tree(s)

75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	0706.4.2
Grade/Course Level Expectation	
Checks for Understanding	Use similar triangles and proportionality to find the lengths of unknown line segments in a triangle.
State Performance Indicators	
Detail	

General Skill(s)

7,C,108: Polygons*
7,C,119: Properties of Quadrilaterals*

Skill Tree(s)

15SB: Perimeter, Area, and Volume
75MC: Geometry Concepts 7-8
183MC: Rate, Ratio, and Proportion Concepts 7-8
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	0706.4.3
Grade/Course Level Expectation	
Checks for Understanding	Understand that if a scale factor describes how corresponding lengths in two similar objects are related, then the square of the scale factor describes how corresponding areas are related, and the cube of the scale factor describes how corresponding volumes are related.
State Performance Indicators	
Detail	

General Skill(s)

7,C,118: Scale*

Skill Tree(s)

75MC: Geometry Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	0706.4.4
Grade/Course Level Expectation	
Checks for Understanding	Compare angles, side lengths, perimeters and areas of similar shapes.
State Performance Indicators	
Detail	

General Skill(s)

7,C,108: Polygons*
7,C,119: Properties of Quadrilaterals*

Skill Tree(s)

15SB: Perimeter, Area, and Volume
75MC: Geometry Concepts 7-8
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	0706.4.5
Grade/Course Level Expectation	
Checks for Understanding	Solve problems using ratio quantities: velocity (measured in units such as miles per hour), density (measured in units such as kilograms per liter), pressure (measured in units such as pounds per square foot), and population density (measured in units such as persons per square mile).
State Performance Indicators	
Detail	

General Skill(s)

7,C,8: Ratio & Proportion

Skill Tree(s)

183MC: Rate, Ratio, and Proportion Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	SPI 0706.4.1
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Solve contextual problems involving similar triangles.
Detail	

General Skill(s)

7,C,108: Polygons*
7,C,119: Properties of Quadrilaterals*
7,C,12: Geometry: 2D & 3D Figures

Skill Tree(s)

15SB: Perimeter, Area, and Volume
75MC: Geometry Concepts 7-8
150SB: Math Strategies 7-8
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	SPI 0706.4.2
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Use SSS, SAS, and AA to determine if two triangles are similar.
Detail	

General Skill(s)

7,C,108: Polygons*
7,C,119: Properties of Quadrilaterals*
7,C,12: Geometry: 2D & 3D Figures

Skill Tree(s)

15SB: Perimeter, Area, and Volume
75MC: Geometry Concepts 7-8
150SB: Math Strategies 7-8
188MC: Functional, Geometric, and Stat. Relationships

Grade	7
Subject	Mathematics
Standard	Geometry & Measurement
Code	SPI 0706.4.3
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Apply scale factor to solve problems involving area and volume.
Detail	

General Skill(s)

7,C,16: Area & Volume

Skill Tree(s)

15SB: Perimeter, Area, and Volume
66LG: Perimeter, Area, and Volume: Mixed Practice
150SB: Math Strategies 7-8
184MC: Measurement Concepts 7-8

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	GLE 0706.5.1
Grade/Course Level Expectation	Collect, organize, and analyze both single- and two-variable data.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	GLE 0706.5.2
Grade/Course Level Expectation	Select, create, and use appropriate graphical representations of data.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	GLE 0706.5.3
Grade/Course Level Expectation	Formulate questions and design studies to collect data about a characteristic shared by two populations, or different characteristics within one population.
Checks for Understanding	
State Performance Indicators	
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data
7,C,41: Problem Solving
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Orchard Correlation to the Tennessee Curriculum Standards

Grade 7

Subject Mathematics

Standard Data Analysis, Statistics, & Probability

Code GLE 0706.5.4

Grade/Course Level Expectation Use descriptive statistics to summarize and compare data.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

7,C,41: Problem Solving
7,C,42: Interpreting Data
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade 7

Subject Mathematics

Standard Data Analysis, Statistics, & Probability

Code GLE 0706.5.5

Grade/Course Level Expectation Understand and apply basic concepts of probability.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

7,C,41: Problem Solving
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	0706.5.1
Grade/Course Level Expectation	
Checks for Understanding	Create and interpret box-and-whisker plots and stem-and-leaf plots.
State Performance Indicators	
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	0706.5.2
Grade/Course Level Expectation	
Checks for Understanding	Interpret and solve problems using information presented in various visual forms.
State Performance Indicators	
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	0706.5.3
Grade/Course Level Expectation	
Checks for Understanding	Predict and compare the characteristics of two populations based on the analysis of sample data.
State Performance Indicators	
Detail	

General Skill(s)

7,C,41: Problem Solving
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	0706.5.4
Grade/Course Level Expectation	
Checks for Understanding	Use proportional reasoning to make predictions about results of experiments and simulations.
State Performance Indicators	
Detail	

General Skill(s)

7,C,41: Problem Solving
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8

Orchard Correlation to the Tennessee Curriculum Standards

Grade 7

Subject Mathematics

Standard Data Analysis, Statistics, & Probability

Code 0706.5.5

Grade/Course Level Expectation

Checks for Understanding Evaluate the design of an experiment.

State Performance Indicators

Detail

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 7

Subject Mathematics

Standard Data Analysis, Statistics, & Probability

Code 0706.5.6

Grade/Course Level Expectation

Checks for Understanding Apply percentages to make and interpret histograms and circle graphs.

State Performance Indicators

Detail

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	0706.5.7
Grade/Course Level Expectation	
Checks for Understanding	Use a tree diagram or organized list to determine all possible outcomes of a simple probability experiment.
State Performance Indicators	
Detail	

General Skill(s)

7,C,17: Permutations & Counting Arrangements

Skill Tree(s)

150SB: Math Strategies 7-8

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	SPI 0706.5.1
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Interpret and employ various graphs and charts to represent data.
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	SPI 0706.5.2
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Select suitable graph types (such as bar graphs, histograms, line graphs, circle graphs, box-and-whisker plots, and stem-and-leaf plots) and use them to create accurate representations of given
Detail	

General Skill(s)

7,C,32: Graphs, Charts, & Data Management
7,C,42: Interpreting Data

Skill Tree(s)

150SB: Math Strategies 7-8
182MC_A: Data Management Concepts

Grade	7
Subject	Mathematics
Standard	Data Analysis, Statistics, & Probability
Code	SPI 0706.5.3
Grade/Course Level Expectation	
Checks for Understanding	
State Performance Indicators	Calculate and interpret the mean, median, upper-quartile, lower-quartile, and interquartile range of a set of data.
Detail	

General Skill(s)

7,C,19: Mean, Median, & Mode

Skill Tree(s)

182MC_A: Data Management Concepts

Orchard Correlation to the Tennessee Curriculum Standards

Grade 7

Subject Mathematics

Standard Data Analysis, Statistics, & Probability

Code SPI 0706.5.4

Grade/Course Level Expectation

Checks for Understanding

State Performance Indicators Use theoretical probability to make predictions.

Detail

General Skill(s)

7,C,41: Problem Solving
7,C,53: Logic Problems

Skill Tree(s)

18LG: Math Word Problems: Advanced
77MC: Percent Concepts 7-8
150SB: Math Strategies 7-8

Grade 8

Subject Mathematics

Standard Mathematical Processes

Code GLE 0806.1.1

Grade/Course Level Expectation Use mathematical language, symbols, and definitions while developing mathematical reasoning.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

8,C,42: Adding Decimals
8,C,43: Adding Fractions
8,C,44: Subtracting Decimals
8,C,45: Subtracting Fractions
8,C,46: Multiplying Decimals
8,C,47: Multiplying Fractions
8,C,48: Dividing Decimals
8,C,49: Dividing Fractions

Skill Tree(s)

18LG: Math Word Problems: Advanced
92SB_B: Decimals: Beginning
186MC: Decimal Concepts 7-8
150SB: Math Strategies 7-8
185MC: Fraction Concepts 7-8
92SB_A: Decimals: Advanced
9SB: Fractions: Advanced